



Take  
a Good Look  
It May Be Your Future



# MARS

## SERIES 83

HEAVY DUTY

3 PIECE BALL VALVES

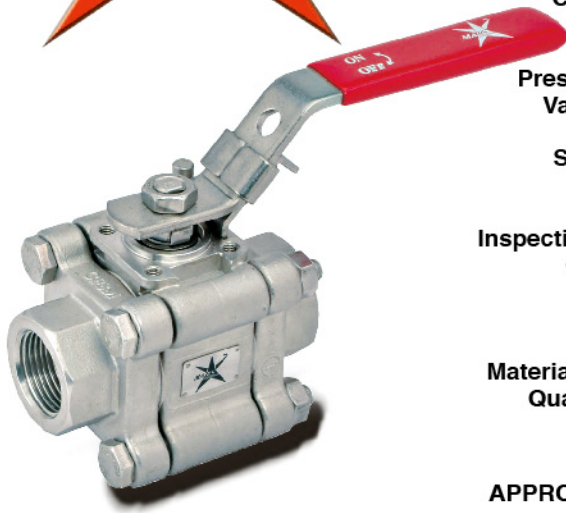
1/4" TO 2 1/2" FULL PORT AND REDUCED PORT

[www.marsvalve.com.tw](http://www.marsvalve.com.tw)



# SERIES 83

## Heavy Duty Three-Piece Ball Valves



- Construction** 3-Piece In-Line Swing Out Design, Full Port or Reduced Port
- Size Range** Full Port: 1/4" to 2" (DN 8 to DN 50)  
Reduced Port: 1/2" to 2 1/2" (DN 15 to DN 65)
- Pressure Rating** 1/4"-1": 2000 PSI 1 1/4"-2": 1500 PSI
- Valve Material** Standard: ASTM A351 Gr. CF8M / EN 10213 1.4408  
Options: WCB/1.0619, CF3M/1.4409, Titanium, Duplex S/S, Hastelloy ....etc.
- Seat Material** Standard: R-TFE  
Options: TFM 1600, PEEK, Carbon filled PTFE, Delrin, UHMWPE, 50/50 S/S filled PTFE...and others
- Inspection and Test** API 598
- Compliance Standards** ASME B16.34, NPT ASME B1.20.1, BSPP ISO 228-1, BSPT ISO 7-1, DIN2999, SW ASME B16.11, BW ASME B16.25, EN 1092-1, ASME B16.5 Class 150, ISO 5211, ISO 5209  
\* For valves full compliance with ASME B16.34, please consult factory
- Material Certificate** EN 10204 - 3.1
- Quality System** ISO 9001
- Options** NACE MR - 0175  
Standard valve is non-fire safe design, fire safe valve is optional

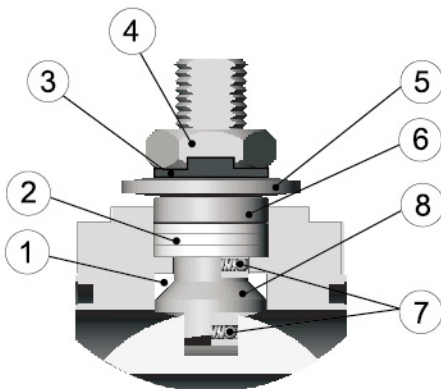
### APPROVALS



TA-Luft

ATEX 2014/34/EU

### Mars Unique SealMax<sup>®</sup> Triple-Sealing Stem Packing System - Live Loaded - Maintenance Free - Extra Long Cycle Life - TA-Luft Approved



#### 1. Pyramidal Stem with Stem Seal

First stage of defense against leakage. The 45° slope of the stem accompany the stem seal effectively blocks all leak path during rotation.

#### 2. V-Ring Stem Packing

Second stage of defense against leakage. Multiple layers of V-Ring Chevron Packing expands side way as it is being compressed, blocking all air pockets to prevent leak path.

#### 3 Lock Saddle

Stabilizes the entire stem nut to keep it from loosening during operation

#### 4. Stem Nut

Compress the entire stem system to enable blocking of leakage

#### 5. Belleville Washers

Automatically compress the seals to adjust for wear, pressure, and temperature fluctuations.

#### 6. Gland

Made of stainless steel, equally distributes the compressive force on the packing and seal.

#### 7. Anti-Static Device

Spring loaded stem-to-ball and stem-to-body anti-static device as standard

#### 8. Super Smooth Stem Finish

Reduces seal friction and operating torque, prolongs service life.

### Available End Connections



FIG. 83-10  
Threaded



FIG. 83-20  
Socket Weld



FIG. 83-30  
Butt Weld

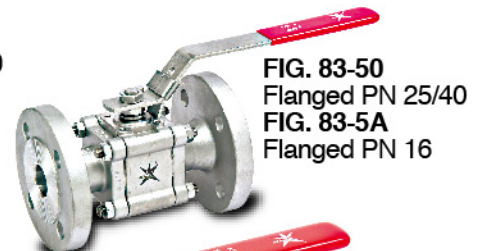


FIG. 83-50  
Flanged PN 25/40  
FIG. 83-5A  
Flanged PN 16



FIG. 83-60  
Flanged END  
ANSI 150LBS

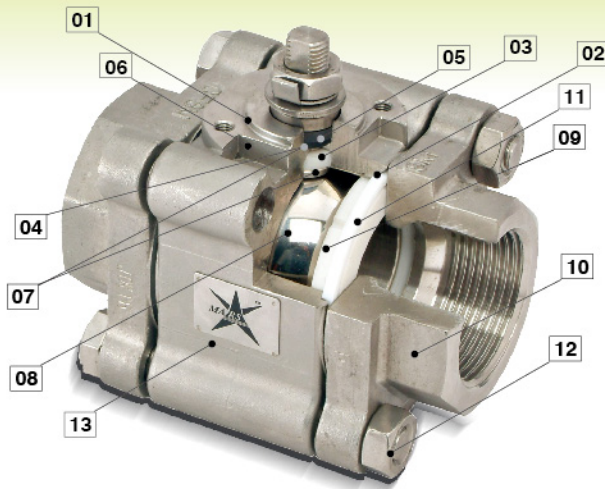


FIG. 83-70  
Tube(ISO), Butt Weld



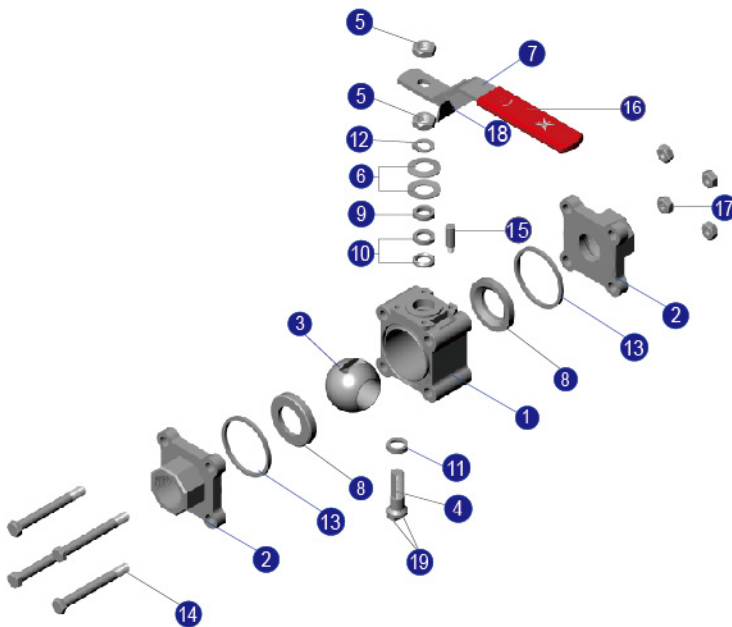
SERIES 83  
instrumentation Ball Valve

## DESIGN FEATURES



- 01. Fully machined ISO 5211 Mounting Pad**  
Tapped and drilled, ease of automation
- 02. Fire-Safe Certified to API 607 4<sup>th</sup> Edition**
- 03. MARS SealMax<sup>®</sup> Stem Design**  
Provides optimum stem seal and extremely high cycle life
- 04. Blow-Out Proof Stem**  
Prevents stem from blowing-out, for maximum safety.
- 05. Super smooth stem surface**  
Reduces seal friction and operating torque
- 06. Locking Device Standard**
- 07. Anti-Static Device**  
Standard applied between stem-to-body and stem-to-ball
- 08. Ball**
  - Precisely machined, mirror finished ball surface for bubble tight shutoff with less operating torque
  - A relief hole in stem slot to balance the pressure in the body cavity ensures tight shutoff and long service life
  - V-PORT control valves available on request

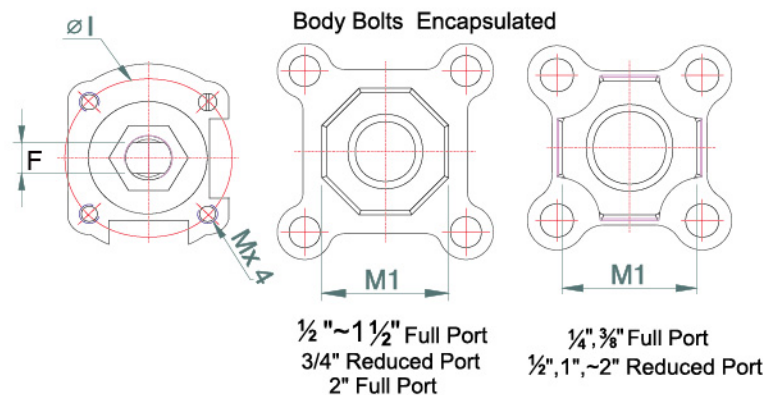
## MATERIALS LIST



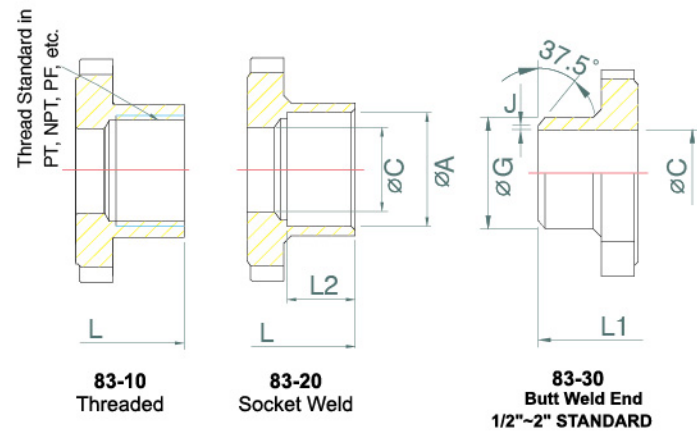
NO.	PART NAME	MATERIAL	Q'TY
1	Body	CF8M / WCB	1
2	End Cap	CF8M <sup>1</sup> / WCB	2
3	Ball	SUS316 / CF8M	1
4	Stem	SUS316	1
5	Stem Nut	SUS 304	2
6	Belleville Washer	SUS 301	2
7	Handle	SUS 304	1
8	Seat	RPTFE	2
9	Gland	SUS 304	1
10	Stem Packing	MG-1241	2
11	Stem Seal	RPTFE	1
12	Lock Saddle	SUS 304	1
13	Joint Gasket	PTFE	2
14	Bolt	SUS 304	*
15	Stop Pin	SUS 304	1
16	Handle Sleeve	VINYL	1
17	Bolt Nut	SUS 304	f
18	Locking Device	SUS 304	1
19	Anti-Static Device	SUS 316	2

<sup>1</sup> Socket weld and butt weld uses CF3M material  
 \* For 1/4" to 1 1/2" - 4pcs; For 2" - 6pcs  
 f For 1/4" to 1 1/2" - 4pcs; For 2" - 6pcs

## DIMENSIONS (mm)



## END CAP OPTIONS



## DIMENSIONS (mm)

SIZE	øA		B1		B2		B3		B4		B5		øC		øD		E		F		øG		H
	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F	R	F		
1/4"	14.3		7.4		29.8		0.5		6.1		1.3		10		9.5		134		6.5		13.7		64.3
3/8"	17.6		7.4		29.8		0.5		6.1		1.3		10		9.5		134		6.5		17.5		64.3
1/2"	21.9	21.9	16.1	7.4	29.0	29.8	2.0	0.5	7.3	6.1	8.8	1.3	15	10	9.5	9.5	134	134	6.5	6.5	21.7	21.7	71.5
3/4"	27.3	27.3	18.1	16.1	33.0	29.0	2.0	2.0	8.8	7.3	9.3	8.8	20	15	9.5	9.5	134	134	6.5	6.5	27.2	27.2	76.0
1"	33.9	33.9	24.6	18.1	36.0	33.0	2.0	2.0	11.0	8.8	13.6	9.3	25	20	11.1	9.5	170	134	8.0	6.5	34.0	34.0	82.3
1 1/4"	42.8	42.8	24.3	24.6	40.0	36.0	2.0	2.0	9.7	11.0	14.6	13.6	32	25	11.1	11.1	170	170	8.0	8.0	42.7	42.7	87.3
1 1/2"	48.9	48.9	30.2	24.3	47.3	40.0	2.2	2.0	12.2	9.7	18.0	14.6	38	32	14.3	11.1	207	170	9.7	8.0	48.6	48.6	103.6
2"	61.3	61.3	26.0	30.2	69.5	47.3	1.5	2.2	12.6	12.2	13.4	18.0	50	38	14.3	14.3	207	207	9.7	9.7	60.5	60.5	121.6
2 1/2"		ANSI 74 PN 76.3	26.0		69.5		1.5		12.6		13.4		50		14.3		207		9.7		76.1		

\* Dimension For Round End Cap





# MARS OPTIONAL VALVE ACCESSORIES INCREASE PRODUCTIVITY AND GIVE YOU MORE CONTROL OVER YOUR INDUSTRIAL PROCESS



**SERIES 83C  
Cryogenic Ball Valves**  
For low temperature to -196°C  
1/2" to 2", Full or Reduced Port

## V-Control Ball Valves

Mars V-Control Ball valves match the control performance of globe valve, excellent for modulating service, but Mars V-Control ball valves are more compact, lighter weight, and much less expensive than globe valves.



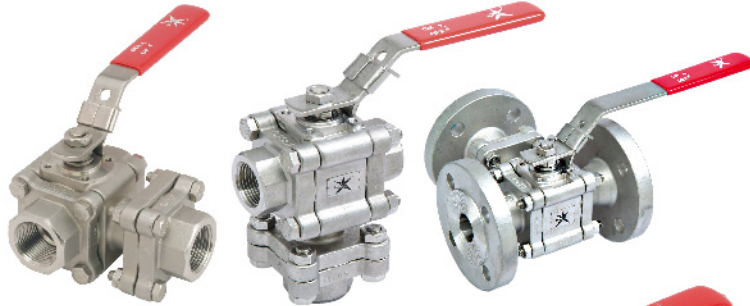
30°V, 60°V, 90°V  
30°V, 60°V, 90°V are standard, others on request



**Heating Jacket**  
Jacket ball valve prevents solidification and blockage in use of hot water, steam, or other appropriate heating or cooling medium

## 3-Way Diverter Ball Valves

For Diversion, Mixing, and Blending applications  
Side Entry: T-Port, L-Port  
Bottom Entry: T-Port, L-Port, LL-Port



## Titanium BALL VALVES

Light weight, Excellent for Corrosion Resistance  
Other special alloy available on request  
Monel, Hastelloy C, Alloy 20, Duplex

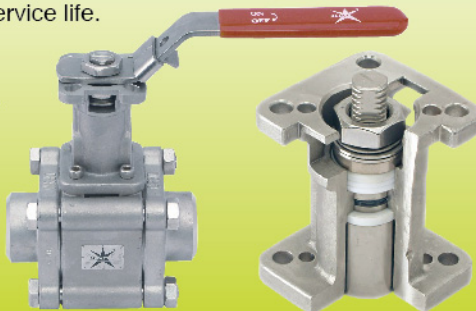


**Tapped and Drilled  
Eight (8) Body  
Bolts Design**

\*Available on request

## Mars "TSM" Unit adds Extra Safety and Long Service Life

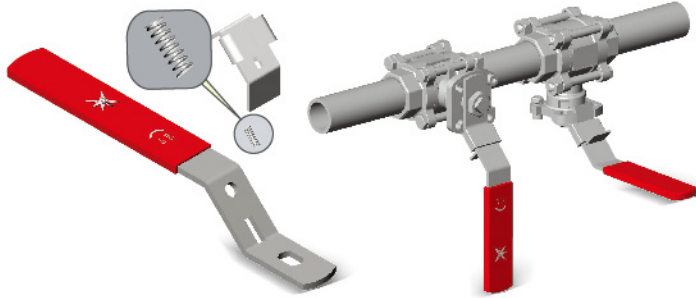
- The TSM unit designed for possible fugitive emission to meet TA-Luft requirements for a safe and clean environment, and provides a secondary stem seal for the valve stem, prolongs service life.
- The TSM unit can also function as stem extension for insulation.
- ISO 5211 mounting pad and square shaft for direct actuator mounting with no brackets and adapters, ease of automation.
- Cast bosses for monitoring device



## SERIES 83 HANDLE OPTIONS

### SPRING RETURN SLIDING LOCK (SRSL) HANDLE MAKES OPERATION SAFE

No matter the orientation of the ball valves, the SRSL Handle always secures handle in position, make valve operation safe



### OVAL HANDLE

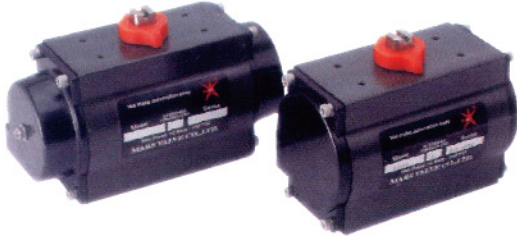


### ECONOMICAL STEM EXTENSION

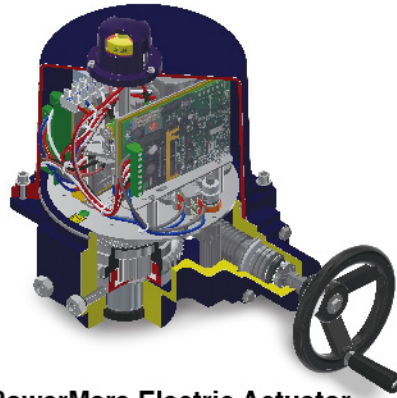
- 304SS Construction
- Cost effective
- Easy installation



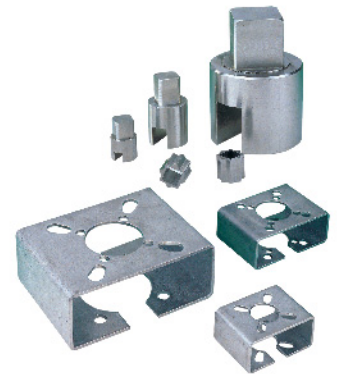
## EASY AUTOMATION



AirMars Pneumatic Actuator



PowerMars Electric Actuator



Brackets & Couplings

## HOW TO ORDER 83-10 ST05B

83-10	S	T	05	B
VALVE	BODY MATERIAL	SEAT MATERIAL	SIZE	HANDLE STYLE
<input checked="" type="checkbox"/> 83-10 <input type="checkbox"/> 83-20 <input type="checkbox"/> 83-30 <input type="checkbox"/> 83-50 <input type="checkbox"/> 83-5A <input type="checkbox"/> 83-60 <input type="checkbox"/> 83-70	<input checked="" type="checkbox"/> S - CF8M <input type="checkbox"/> W - WCB <input type="checkbox"/> L - CF3M <input type="checkbox"/> D - Duplex <input type="checkbox"/> T - Titanium <input type="checkbox"/> A - Alloy 20	<input type="checkbox"/> P PTFE <input type="checkbox"/> R R-TFE <input checked="" type="checkbox"/> T TFM1600 <input type="checkbox"/> S 50/50 S.S.+PTFE <input type="checkbox"/> M MG1241 <input type="checkbox"/> C Carbon filled PTFE <input type="checkbox"/> U UHMWPE <input type="checkbox"/> K Peek <input type="checkbox"/> D Delrin <input type="checkbox"/> A Metal	<input type="checkbox"/> 01) 1/4" <input type="checkbox"/> 02) 3/8" <input type="checkbox"/> 03) 1/2" <input type="checkbox"/> 04) 3/4" <input checked="" type="checkbox"/> 05) 1" <input type="checkbox"/> 06) 1 1/4" <input type="checkbox"/> 07) 1 1/2" <input type="checkbox"/> 08) 2" <input type="checkbox"/> 09) 2 1/2"	<input type="checkbox"/> Std. handle <input type="checkbox"/> i - Investment Cast <input type="checkbox"/> O - Oval handle <input type="checkbox"/> L - SRSL handle <input type="checkbox"/> S - SRS handle <input checked="" type="checkbox"/> B - Bare shaft <input type="checkbox"/> G - Gear Box



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